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**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1-15. (canceled)

16. (currently amended) A method for detecting a highly ordered structural site of a nucleic acid of a gene, the method of comprising:

contacting a gene with a probe to generate an electrochemical response; and detecting the electrochemical response,

wherein the probe comprises a cyclic ligand containing a ferrocenyl group and a DNA threading intercalating moiety.

17. (currently amended) A device for detecting a highly ordered structural site of a nucleic acid of a gene using a probe, the device comprising:

a container,

a solution for dissolving the probe, the solution being held in the container,

a working electrode modified with a gene, the working electrode dipped in the solution in the container, and

a counter electrode dipped in the solution in the container,

wherein the probe comprises a cyclic ligand containing a ferrocenyl group and a DNA threading intercalating moiety.

18. (currently amended) A method for detecting a highly ordered structural site of a nucleic acid of a gene, the method of comprising:

contacting a gene with a probe to generate an electrochemical response; and detecting the electrochemical response,

wherein the probe comprises a cyclic ligand containing ferrocenyl group and a DNA threading intercalating moiety,

wherein the cyclic ligand further comprises two linker moieties each having two terminal amino groups, and

wherein each linker moiety being is connected with the DNA threading intercalating moiety through one of said terminal amino groups, and each linker moiety being is connected with the ferrocenyl group through the other of said terminal amino groups.

19. (currently amended) A device for detecting a highly ordered structural site of a nucleic acid of a gene using a probe, the device comprising:

a container,

a solution for dissolving the probe, the solution being held in the container,

a working electrode modified with a gene, the working electrode dipped in the solution in the container, and

a counter electrode dipped in the solution in the container,

wherein the probe comprises a cyclic ligand containing ferrocenyl group and a DNA threading intercalating moiety,

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wherein the cyclic ligand further comprises two linker moieties each having two terminal amino groups, and  
wherein each linker moiety ~~being~~ is connected with the DNA threading intercalating moiety through one of said terminal amino groups, and each linker moiety ~~being~~ is connected with the ferrocenyl group through the other of said terminal amino groups.